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Financial Reform and Monetary Control in Indonesia

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Abstract

This paper analyzes the evolution and effectiveness of Indonesia's monetary control system following the financial reforms implemented since 1983. These reforms entailed the abolition of interest rate and credit ceilings, a change in the central bank's funding role, the introduction of new instruments of indirect monetary control, and measures to develop money markets. The new monetary control system was conducive to a more integrated and more competitive financial system and helped achieve the external balance objective. However, the pace of liberalization of money market rates was constrained by the choice of policy mix to deal with economic shocks.

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Summary

This paper analyzes the evolution and effectiveness of Indonesia's monetary control system following the financial reforms implemented since 1983. The reforms were initiated as part of a comprehensive adjustment effort aimed at improving Indonesia's external accounts. They were intended to complement the adjustment program by correcting some of the shortcomings of the monetary control system, which had hitherto relied mainly on direct restrictions such as credit ceilings and interest rate controls. These restrictions had distorted the pattern of financial intermediation, encouraged private capital outflows, and tended to become ineffective. The first stage of the reform entailed the removal of credit ceilings, the abolition of controls on state banks' interest rates, and a change in the central bank's funding role. The second stage included the introduction of new instruments of indirect monetary control and the adoption of measures to strengthen the money market.

The new monetary control system and the concurrent fiscal and exchange rate adjustments contributed to a substantial improvement in Indonesia's external accounts. The relaxation of interest rate and credit controls stimulated competition among domestic financial institutions and helped reverse the previous pattern of private capital outflows by increasing the attractiveness of domestic-currency financial assets. In addition, the new monetary instruments served to widen participation in the domestic money market and to reduce segmentation in the loan market, thus improving the overall efficiency of financial intermediation.

I. Introduction

The financial system in Indonesia has been strongly influenced by developments in the petroleum sector, which accounts for more than half of export receipts and of public sector revenues. In the 1970s, the expansion of oil revenues contributed to a rapid growth in real GDP, averaging 8 percent annually, and to a sharp increase in domestic savings, from 12 percent of GNP in 1971 to 26 percent in 1980. The oil boom was also reflected in higher inflation, with the GDP deflator rising by an average rate of 16 percent a year between 1974 and 1982. The concomitant expansion of the financial sector was sizable, both in terms of volume of transactions and in the range of financial services. The situation changed drastically in 1982-83, however. Declining oil exports contributed to a marked weakening of the external accounts and triggered a comprehensive adjustment effort that was initiated in 1983. Principal elements of this effort were a 28 percent depreciation of the exchange rate, the streamlining of public sector subsidies and investment programs, and a reform of the tax system aimed chiefly at increasing non-oil tax revenue.

On June 1, 1983, as part of the adjustment policies, the Indonesian authorities also initiated a financial and monetary reform. The reform was intended to correct some of the shortcomings of the previous system of direct restrictions on the policies of financial institutions; that system had distorted the pattern of financial intermediation, encouraged private capital outflows, and tended to become ineffective. The first stage of the reform entailed the removal of credit ceilings, the abolition of controls on state banks' interest rates, and the change in the funding role of the central bank [Bank Indonesia (BI)]. The second stage included the introduction of new instruments of indirect monetary control and the adoption of measures to strengthen the money market.

This paper analyzes the evolution and effectiveness of the monetary control system with a particular focus on the impact of the reforms implemented since 1983. It is argued that the financial reform measures have contributed significantly to the adjustment effort by restoring the competitiveness of the domestic financial institutions. In addition, these measures have enhanced the authorities' technical ability to control reserve money and have widened participation in the money markets. Nevertheless, the evolution of the monetary control system has been constrained by the continuing pressure on the exchange rate and interest rates--reflecting, in part, the steady weakening of oil prices throughout the 1983-86 period--which have encouraged the authorities to focus on targeting interest rates rather than monetary aggregates. Although interest rate targeting may have been more stabilizing in the presence of the large portfolio shifts during the early phases of the reform, greater flexibility of money market rates could help enhance both monetary control and money market development in the period ahead. In this regard, one of the lessons of the Indonesian experience may be that the progress

of financial reform depends not only on institutional development but also on the overall macroeconomic environment. A more favorable external environment, in particular, would relax some of the constraints that may have slowed down the move toward market-determined money market rates, and would allow a fuller use of the arsenal of new instruments at the central bank's disposal.

II. Background

As background to an understanding of monetary policy developments, it is useful to outline briefly the structure of the financial system.

The Indonesian financial system is dominated by BI and deposit money banks, which together hold over 90 percent of total gross assets of the organized financial system. The deposit money banks (DMBs) consist of 5 major state banks, 10 private Indonesian foreign exchange banks, 11 foreign banks, 59 purely domestic commercial banks, and 28 development banks. The state banks with their large branch systems dominate the banking scene, accounting for about 65 percent of total deposit lia- bilities and 70 percent of total credit of DMBs.

Nonbank financial institutions (NBFIs), one of the fastest growing segments of the system, still account for only around 4 percent of gross assets of the organized financial system. NBFIs fall into two cate- gories--development and investment. The development institutions, which are wholly or partly state owned, engage principally in medium- and long- term lending or equity participation. They derive their resources mainly from long-term borrowing from BI or international lending institutions and, to a lesser extent, from the issuance of short-term promissory notes. The investment NBFIs, which are privately owned, deal primarily in short-term commercial paper and promissory notes, thus constituting an important segment of the domestic money market. They hold commercial and financial paper issued by borrowers, which they fund by selling their own promissory notes. The sale of corporate promissory notes (with or without recourse) is negligible.

Before the financial reform, the Jakarta money market consisted of a fairly segmented interbank market and a small market for the liabilities of nonbank financial intermediaries. Maturities in the interbank market were generally quite short, from overnight to one week, and rates were set competitively. However, the market was dominated by the large state banks, which were normally the chief suppliers of funds to other participants. Following the financial reform, a significant deepening of the money market is underway.

Indonesia's exchange rate system is virtually free of restrictions, as is short-term external borrowing by residents. BI stands willing to trade unlimited amounts of foreign exchange for rupiah with authorized

traders at BI-determined intervention rates that are adjusted on the basis of a policy of managed float against a basket of currencies.

III. Monetary Policy: Targets and Instruments

1. Policy objectives in Indonesia

One of the principal objectives of macroeconomic policy in Indonesia is the maintenance of external balance. Because the exchange rate system is virtually free of restrictions, any perceived misalignment between international and domestic interest rates--corrected for exchange rate expectations--could undermine financial stability by giving rise to massive capital movements. Macroeconomic policies can affect capital flows not only through their impact on the current account of the balance of payments but also through their effect on exchange rate expectations. The elusive relationships between these expectations and policy and non-policy actions have made the coordination of exchange rate and financial policies one of the most challenging tasks for the Indonesian authorities.

In addition to external balance, other longer-run objectives of Indonesian policymakers include the promotion of saving and investment, satisfactory growth of output and employment, the maintenance of price stability and the deepening of domestic financial intermediation. Although in the long run these objectives are attainable only in the context of a stable financial environment, in the short run there may be some conflicting considerations. For example, the rise in domestic interest rates that has been necessary to stabilize the external accounts in the wake of the terms-of-trade deterioration of recent years may have tended to weaken investment incentives. In the presence of such trade-offs, the Indonesian authorities have consistently adopted the longer view, making financial stability the foremost policy objective.

2. Choice of monetary targets

In an open economy such as that of Indonesia, the choice between interest rates and monetary or credit aggregates as policy targets will generally depend on the degree of substitutability between domestic and foreign currency assets, and on the exchange rate regime. If the exchange rate is fixed and expected to remain so, then the authorities will have little control over the money supply in the long run as increases (decreases) in domestic credit tend to be offset by losses (gains) in international reserves. Under perfect capital mobility the money supply cannot be controlled even in the short run, with incipient capital flows forcing the authorities to target the domestic interest rate in line with the international rate.

By contrast, when the exchange rate is flexible, as has been the case in Indonesia in recent years, the authorities may have much more

autonomy in conducting monetary policy. In the short run, exchange rate flexibility may allow attaining external balance with multiple mixes of monetary, fiscal and exchange rate policies, without any intervention in the foreign exchange market. These policies can be carried out by targeting either interest rates or the money supply. Some monetary autonomy may be maintained, even when the exchange rate remains temporarily pegged, through sterilized intervention in the foreign exchange market. In the long run of course, a policy of pegging the exchange rate cannot be sustained if it is accompanied by an overly expansionary monetary policy; but in the short run, the possibility of using sterilized intervention may substantially enhance the central bank's monetary autonomy. Indeed, thanks to the financial reform, BI has improved its ability to offset any undue changes in the money supply by developing the new money market instruments that are described in the next section. 1/

Given such autonomy, what criteria could guide the authorities' choice between interest rate and money supply targeting? One set of criteria could be based on the ability of each kind of policy to minimize any deviations of output and prices from their targeted or expected levels.

Such deviations could result from a variety of exogenous disturbances, including shifts in the public's spending and portfolio behavior and changes in the terms of trade. For some types of disturbances, monetary policy may be more stabilizing with interest rate targeting, while for others money or reserve targeting may work better. In this regard, the generally accepted view is that interest rates are likely to be the preferred short-run and intermediate target when the dominant source of instability is in the financial sector, whereas the targeting of a monetary or credit aggregate could be preferable when real sector

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1/ The possibility of using sterilized intervention to control both the exchange rate and the money supply may provide asymmetric flexibility. Given any exchange rate level, domestic interest rates can be kept higher than the level necessary to maintain parity with international rates, as long as the resulting inflow of international reserves is sterilized. However, because the central bank's ability to sterilize reserve losses is limited by its stock of international reserves it would be much more difficult to violate the interest rate parity condition in the opposite direction for an extended period of time. The levels of international interest rates and the exchange rate thus only set a floor for domestic interest rates in the longer run. The authorities may have some autonomy in choosing rates above the floor rate, but this rate cannot be lowered without the necessary exchange rate action. For a more detailed discussion on the potentialities and limitations of sterilized intervention see Peter Kenen, "Exchange Rate Management: What Role for Intervention?" American Economic Review, Papers and Proceedings, May 1987, pp. 194-99.

disturbances are more important. 1/ In practice, of course, no simple policy rule can ensure economic and financial stability. In an economy that may be simultaneously subject to multiple disturbances of varying intensities, on which there is imperfect information, policymakers may prefer to adopt a policy of discretionary adaptation by continuously reviewing the settings of policy targets in the face of the most recent information. Although it would still be necessary to choose between interest rate or money supply targets at any point in time, this choice would generally be subsidiary to the more important task of setting the target level. 2/

Following the financial reform, the Indonesian authorities seem to have shifted from targeting aggregate credit expansion to targeting interest rates, thereby allowing monetary and reserve aggregates to be demand determined. Interest rates on the new money market instruments were occasionally adjusted in line with exchange rate considerations in the year following the money market crunch of September 1984, but they changed little thereafter. As a result, the net absorption or injection of bank reserves through these instruments was left largely to the discretion of the banking system. The policy of targeting interest rates may have been appropriate in the wake of the financial reform initiated in 1983. Portfolio shifts were probably a dominant type of disturbance, at least during the early part of the post-reform period, warranting stabilization of interest rates according to the argument spelled out above. Rupiah time and savings deposits rose from the equivalent of less than 4 percent of GDP in March 1982, to more than 12 percent of GDP in December 1986 (Table 1). Narrow money in relation to GDP also fluctuated during this period, albeit without any apparent trend, with its composition shifting in favor of currency. Targeting monetary and reserve aggregates in the wake of such significant financial sector changes could conceivably have resulted in undue increases or instability in the level

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1/ This prescription was originally derived in the context of a closed-economy model (Poole (1970)), but it has also been extended-- with appropriate qualifications--to the case of open economies (see, for example, Bryant (1980), Benavie (1983), and the references therein). One interesting result of these open-economy models is that, contrary to the common presumption, it is often optimal for the government to lean with the wind in the foreign exchange market, thereby reinforcing any movement in the exchange rate that is produced by market forces (Benavie (1983) and Harkness (1985)). This result, of course, is specific to these models which provide a rather restrictive view of the circumstances under which exchange intervention occurs.

2/ For a more detailed discussion of these issues, and for additional references, see Bryant (1980).

Table 1. Indonesia: Selected Monetary Indicators

	1982 March	1983 March	1984 March	1985 March	1986 March	1985 Dec.	1986 Dec.
(In billions of rupiah; end of period)							
Broad money	10,150.0	12,246.0	15,759.0	19,357.0	24,170.0	23,153.0	28,058.0
Rupiah broad money	8,948.0	10,131.0	13,258.0	16,017.0	20,278.0	19,711.0	23,265.0
Narrow money	6,774.0	7,378.0	8,055.0	8,988.0	10,475.0	10,104.0	11,533.0
Currency outside banks	2,541.0	3,000.0	3,554.0	3,785.0	5,044.0	4,440.0	5,337.0
Demand deposits	4,233.0	4,378.0	4,501.0	5,203.0	5,431.0	5,664.0	6,196.0
Of which:							
with BI	76.0	77.0	70.0	179.0	62.0	104.0	211.0
with DMBs	4,157.0	4,301.0	4,431.0	5,024.0	5,369.0	5,560.0	5,985.0
Time and savings deposits	2,184.0	1,753.0	5,203.0	7,039.0	9,803.0	9,607.0	11,732.0
Foreign currency deposits	1,192.0	2,115.0	2,501.0	3,330.0	3,892.0	3,442.0	4,793.0
Adjusted reserve money 1/	4,038.0	4,075.0	5,335.0	5,897.0	7,473.0	6,415.0	7,743.0
Of which:							
Required reserves	930.9	943.5	1,251.9	1,528.2	1,846.1	1,873.1	2,038.5
Excess reserves	490.1	54.5	459.1	404.8	521.0	-2.5	156.5
Currency 2/	2,617.0	3,077.0	3,624.0	3,964.0	5,106.0	4,544.0	5,548.0
Rupiah broad money multiplier	2.22	2.49	2.49	2.72	2.71	3.07	3.00
(In percent of demand deposits with DMBs)							
Currency 2/	63.0	71.5	81.8	78.9	95.1	81.7	92.7
Time and savings deposits	52.5	64.0	117.4	140.1	182.6	172.8	196.0
Required reserves	22.4	21.9	28.3	30.4	34.4	33.7	34.1
Excess reserves	11.8	1.3	10.4	8.1	9.7	-0.0	2.6
(In percent of GDP) 3/							
Broad money	17.5	19.6	21.4	22.1	25.2	24.1	29.4
Rupiah broad money	15.4	16.2	18.0	18.3	21.1	20.5	24.4
Narrow money	11.7	11.8	10.9	10.3	10.9	10.5	12.1
Currency outside banks	4.4	4.8	4.8	4.3	5.3	4.6	5.6
Demand deposits	7.3	7.0	6.1	5.9	5.7	5.9	6.5
Time and savings deposits	3.8	4.4	7.1	8.0	10.2	10.0	12.3
Foreign currency deposits	2.1	3.4	3.4	3.8	4.1	3.6	5.0
Adjusted reserve money 1/	6.9	6.5	7.2	6.7	7.8	6.7	8.1
Memorandum item:							
Gross domestic product	58,127.0	62,476.0	73,698.0	87,536.0	96,066.0	96,066.0	95,323.0

Source: Bank Indonesia, and Fund staff estimates.

1/ Adjusted for disparity between bank reserve figures according to BI and according to deposit money banks.
2/ Includes currency outside banks and demand deposits with BI.

of interest rates, with possible adverse effects on output. 1/

Notwithstanding these considerations, a more flexible interest rate policy could be more appropriate for Indonesia in the period ahead. Most of the portfolio shifts spurred by the reform may have already been completed and real sector disturbances may have become much more important following the recent oil price developments. After the exchange rate depreciation of September 1986, in particular, the authorities may be better able to contain inflation by using monetary and credit aggregates as intermediate targets of monetary policy. Focusing on these aggregates could also help prevent destabilizing speculation against the exchange rate by underscoring that domestic credit creation will not be accommodating. 2/ To control the aggregates the authorities would need to place more emphasis on reserve money as an operational target while allowing interest rates to be more flexible. Irrespective of the chosen target, of course, the settings of target levels would need to be continuously reassessed in light of the most recent information on interest rates, exchange rates, reserve flows, and other relevant variables.

3. Choice of monetary instruments

a. Pre-reform instruments

Before the financial reform of June 1, 1983, the major BI instruments of monetary policy were credit ceilings for individual banks, interest rate controls for state banks, and a selective rediscount mechanism designed to reallocate credit at subsidized interest rates. During each fiscal year, the authorities targeted aggregate credit expansion consistent with projected money demand, and with their target for the balance of payments. The aggregate credit target was then allocated among groups of banks and individual banks on the basis of past performance, with additional subceilings applied for various credit types at each bank. State bank operations were also governed by controls on deposit and loan rates, but private banks--both national and foreign-- were free to set their own interest rates. As a result, state bank deposit rates were maintained significantly below those of private banks, with differentials ranging from six to twelve percentage points depending

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1/ For a review of the U.S. experience with money supply targeting between 1979 and 1984, also a period of deregulation and financial innovation, see Thomas D. Simpson and discussants, "Changes in the Financial System: Implications for Monetary Policy," Brookings Papers on Economic Activity, 1985, 1, pp. 249-72.

2/ See, for example, Obstfeld (1986), who shows how balance of payments crises can be precipitated by rational behavior if an exchange rate collapse is expected to set off an inflationary domestic credit policy. By adhering to a domestic credit target even when the exchange rate is under attack, the authorities could help modify such expectations.

upon maturity. Finally, banks were induced to provide loans to selected priority sectors at below-market interest rates set by BI. These loans were eligible for rediscount (liquidity credits) from BI at highly sub- sidized rates and at varying rediscount proportions, depending upon the type of the loan. Between 1977 and 1982, liquidity credits rose by an average rate of 40 percent a year, becoming a major source of funds for deposit money banks, particularly state banks. By the end of 1982, loans supported by liquidity credits accounted for nearly 80 percent of total credit by DMBs, while liquidity credits made up nearly one third of the total liabilities of state banks.

The pre-reform system of monetary control proved effective in limit- ing the expansion of bank credit, but it also produced some undesirable side effects. The credit ceilings on banks were binding through most of the 1974-82 period, with the realized amounts of credit generally falling short of the specified ceilings during 1974-77, and slightly exceeding the ceilings during 1978-82. However, with reserve money growing rapidly on account of the fast expansion in BI's liquidity credits and net for- eign assets, credit control was achieved at the expense of a large accumulation of surplus funds in the banking system, especially by state banks. Banks held these funds partly in the form of rupiah excess reserves and partly in foreign assets, thus raising their share in total net foreign assets at the expense of BI. In order to check this erosion in its share of international reserves, BI began paying interest on rupiah excess reserves in January 1978 and, between September 1982 and June 1983, it required state banks to hold special deposits with BI, using proceeds from repatriated assets and earning a return tied to LIBOR. Even so, deposit money banks raised their share of total net foreign assets from 8 percent at end-1977 to more than 50 percent in September 1983.

The combination of excess liquidity in the banking system and interest rate controls produced distortions in the pattern of domestic financial intermediation which could ultimately undermine both monetary control and external balance. The deposit rate ceilings that applied only to state banks reduced their ability to compete for private sector deposits and made the state banks increasingly dependent on captive customers, such as public enterprises. As a result, between 1979 and 1982, the average annual rate of growth of time deposits was only 8 percent for state banks, compared with 75 percent for private banks. Concurrently the assets of nonbank financial institutions (NBFIs), which were not subject to credit or interest rate ceilings, grew by an average annual rate of 42.5 percent. Thus, the monetary control system seemed to favor the growth of the less regulated types of institutions at the expense of the highly regulated state banks, possibly weakening its effectiveness. Even if both interest rate and credit ceilings were to be extended throughout the financial system, the resulting lack of competi- tiveness of domestic financial institutions would discourage aggregate saving and could give rise to serious balance of payments difficulties. Indeed, increased competition from offshore financial markets, such as

Singapore and Hong Kong, was already leading to a substantial buildup of offshore deposits.

b. Post-reform instruments

Against this background, and in view of the deteriorating macro-economic environment, the Indonesian authorities initiated their financial reform on June 1, 1983. As part of this reform the authorities dismantled the old system of monetary control through direct restrictions on financial institutions, and replaced it by a more indirect system based on reserve money management. Interest rate controls on state banks were eliminated and a wide range of loan categories--accounting for 50 percent of total loans outstanding prior to the reform--were slated to become ineligible for liquidity credits. Credit ceilings on individual banks were also eliminated. The authorities introduced a new mechanism of monetary control that would rely principally on open market operations complemented by a system of new rediscount facilities. The evolution of these new instruments since the reform is described below.

(1) Open market operations

The rationale for the adoption of open market operations may be best understood in terms of the pre-reform monetary and institutional developments. The acquisition of an increasing share of the system's international reserves by the DMBs was in itself undesirable while the growing importance of the less regulated NBFIs could also pose problems for monetary control in the long run. The introduction of open market operations could minimize such possibilities by offering a rupiah asset as a substitute for foreign assets in the liquid asset portfolios of DMBs, and by allowing the authorities to absorb or inject reserves at their own initiative, so as to restore control over the system's lending capacity. In this regard, the scope for using reserve requirements was limited. Competition from offshore markets constrained the interest spreads of Indonesian banks, while the segmentation of the domestic money market and the wide variation in excess reserve holdings across institutions also restricted the scope for changing reserve ratios. 1/ Open market sales of a rupiah asset, on the other hand, could readily be initiated in an environment of excess liquidity and could eventually help BI improve confidence in the domestic currency by reclaiming its share of net foreign assets. The new instrument could also serve to unify and strengthen the domestic money market and, in the longer run, it could stimulate capital market development.

1/ The reserve requirements are computed on a weekly average basis using contemporaneous reserve accounting. The current ratio of 15 percent--in effect since January 1978--applies to current liabilities, and is a weighted sum with weights varying according to type of liabilities.

Taking into account these considerations, and given the lack of government debt instruments in Indonesia, BI decided to issue its own debt certificate, the Sertificat Bank Indonesia or SBI, beginning in February 1984. SBIs were originally issued once a week with maturities of 30 and 90 days, in bearer form, and in denominations of Rp 50 million, Rp 250 million, and Rp 1,000 million. The frequency of SBI sales was subsequently increased to three times a week in October 1984, and to five times a week from July 1985 to August 1986. Since then, BI has reverted to weekly auctions. The issue of SBIs with 15-day maturities was also initiated in October 1984, but it was discontinued in May 1985. Only banks and nonbank financial institutions (NBFIs) were authorized to buy SBIs directly from BI, but these institutions, as well as the public, were also allowed to trade in SBIs in the secondary market. In order to stimulate demand for SBIs, the interest rate on excess reserves held with BI was first reduced from 13 percent to 7 percent in February 1984, and eliminated three months later.

SBIs were initially sold at preannounced rates set by BI, but BI has used an auction system since March 1984. According to this system, each bidder indicates both the volume of SBIs he is willing to buy and the interest rate he is willing to accept, and BI sets the cutoff rate for each auction. Successful bidders--those that offered to buy at rates lower than or equal to the cutoff rate--generally receive an amount of SBIs equal to the quantity they demanded, at their bid rate. However, if the amount of successful bids exceeds the volume of SBIs that are for sale, the allocation of SBIs among the lowest bidders--those that bid the cutoff rate--is conducted pro rata, while all other bidders receive the requested amounts. Noncompetitive bidding is not accepted. In practice, the five state banks and the State Development Bank (BAPINDO) have been the main participants in the SBI auctions, together holding over 90 percent of outstanding SBIs in early 1986.

Data on cutoff rates in SBI auctions and on the amounts of SBIs outstanding over the last three years are presented in Table 2. The cutoff rate for 30-day SBIs peaked at 18 percent in September and October 1984, a period of extraordinary pressure on bank liquidity that resulted from speculation against the rupiah. With the subsequent easing in money market conditions, the cutoff rate on 30-day SBIs was reduced in steps to 14 percent in August 1985, and has since remained unchanged. The cutoff rate on 90-day SBIs, which has generally been kept at one percentage point above the 30-day rate, has also remained unchanged at 15 percent since October 1985. 1/

Sales of SBIs were initially modest, with the outstanding amount averaging only about Rp 34.4 billion during February-August 1984 (0.6 percent of reserve money). SBIs outstanding declined to Rp 7.3 billion in September 1984 owing to the liquidity shortages faced by banks in the

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1/ There were no issues of 90-day SBIs during April-September 1985.

Table 2. Indonesia: Monthly Data on SBIs, SBPUs, and Related Indicators

	Cutoff Rate in SBI Auctions			SBPU Buying Rates of FICORINVEST 1/			SBPU Selling Rates of FICORINVEST 1/			SBPU Buying Rates of BI 2/ All Maturities	Inter-bank Rate	Basic Discount Rate
	15 Days	30 Days	90 Days	1 Mon.	3 Mon.	6 Mon.	1 Mon.	3 Mon.	6 Mon.			
					(In percent per annum)								
1984												
Jan.	—	--	—	...	...	...	...	...	...	...	19.3	...
Feb.	—	14.00	15.00	...	...	...	...	...	...	...	18.2	17.5
Mar.	--	15.00	--	...	...	...	...	...	...	...	16.4	17.5
Apr.	—	14.50/14.75	—	...	...	...	...	...	...	...	13.7	16.5
May	—	14.50	15.00	...	...	...	...	...	...	...	17.4	16.5
June	—	14.50	—	...	...	...	...	...	...	...	16.5	16.5
July	—	14.50	—	...	...	...	...	...	...	...	16.8	16.5
Aug.	—	15.00	16.00	...	...	...	...	...	...	...	22.6	16.5
Sep.	--	18.00	—	...	...	...	...	...	...	...	46.8	26.0
Oct.	16.00	17.00/18.00	18.50	...	...	...	...	...	...	...	14.7	22.0
Nov.	16.00	17.00	17.50	...	...	...	...	...	...	...	11.0	21.0
Dec.	14.75/15.00	15.75	16.75/17.50	...	...	...	...	...	...	...	9.6	21.0
1985												
Jan.	14.75	15.75	16.50	...	...	...	...	...	...	...	9.6	21.0
Feb.	15.00	16.00	17.00	20.50	20.50	—	17.50	—	—	20.50	12.2	21.0
Mar.	15.00	16.00	17.00	20.25	20.50	—	18.25	—	--	20.50	13.2	21.0
Apr.	15.00	16.00	—	20.25	20.50	—	18.50	—	—	20.50	12.2	21.0
May	15.00	16.00	—	18.25	19.25	—	—	—	—	19.25	10.7	21.0
June	—	16.00	—	18.25	19.25	—	15.50	—	—	19.50	9.2	21.0
July	—	16.00	—	17.23	18.00	—	14.50	—	--	18.00	6.9	19.5
Aug.	—	14.00/15.00	—	16.25	16.00	17.00	14.50	—	--	17.00	8.3	18.5
Sep.	—	14.00	—	15.25	16.00	17.00	14.00	—	—	17.00	10.2	18.5
Oct.	—	14.00	15.00	14.50	15.00	—	14.00	—	—	17.00	9.9	18.5
Nov.	—	14.00	15.00	14.50	15.00	16.50	14.25	—	—	17.00	10.2	18.5
Dec.	—	14.00	15.00	14.50	15.00	—	14.25	—	—	17.00	11.5	18.5
1986												
Jan.	—	14.00	15.00	14.75	15.75	16.50	14.50	15.50	16.25	17.00	12.1	18.5
Feb.	—	14.00	15.00	14.75	15.75	16.50	14.50	15.50	16.25	17.00	12.6	18.5
Mar.	—	14.00	15.00	14.75	15.75	16.50	14.50	15.50	16.25	17.00	15.2	18.5
Apr.	—	14.00	15.00	14.75	15.75	16.50	14.50	15.50	16.25	17.00	14.6	18.5
May	—	14.00	15.00	14.75	15.75	16.50	14.50	15.50	16.25	17.00	13.5	18.5
June	—	14.00	15.00	14.75	15.75	16.50	14.50	15.50	16.25	17.00	12.7	18.5
July	—	14.00	15.00	14.75	15.75	16.25	15.00	16.00	16.25	17.00	12.4	18.5
Aug.	—	14.00	15.00	14.75	15.75	16.25	14.25	15.00	16.00	17.00	12.2	18.5
Sep.	—	14.00	15.00	14.50	15.50	16.25	14.00	15.00	16.00	17.00	12.9	18.5
Oct.	—	14.00	15.00	14.50	15.50	16.25	14.00	15.00	16.00	17.00	12.6	18.5
Nov.	—	14.00	15.00	14.50	15.50	16.25	14.00	15.00	16.00	17.00	12.9	18.5
Dec.	—	14.00	15.00	14.50	15.50	16.25	14.00	15.00	16.00	17.00	14.8	18.5
1987												
Jan.	...	14.00	15.00	14.50	15.50	16.25	14.00	15.00	16.00	17.00	...	18.5

	Volume of SBIs Outstanding	in Custody with FICORINVEST	Volume of SBPUs Outstanding 3/	Use of Liquidity Line with BI
		(In billions of rupiah; end of period)		
1984				
Jan.	—	...	...	...
Feb.	50.95	...	...	...
Mar.	45.70	...	...	...
Apr.	55.35	...	...	...
May	31.45	...	...	...
June	16.80	...	...	...
July	19.30	...	...	...
Aug.	21.45	...	...	...
Sep.	7.30	...	...	...
Oct.	323.35	...	...	...
Nov.	357.60	...	...	...
Dec.	212.75	...	...	...
1985				
Jan.	199.50	...	...	...
Feb.	185.30	39	...	...
Mar.	242.95	214	...	...
Apr.	187.20	132	192	105
May	4.75	84	164	65
June	2.70	89	182	48
July	222.25	27	113	5
Aug.	339.05	91	156	67
Sep.	407.20	57	131	19
Oct.	927.15	121	145	96
Nov.	984.15	223	233	196
Dec.	966.00	441	503	411
1986				
Jan.	1,064.15	342	441	293
Feb.	1,129.00	562	607	530
Mar.	1,394.00	656	659	614
Apr.	1,848.00	607	611	575
May	2,244.00	498	549	451
June	2,057.00	514	558	441
July	2,393.00	368	447	311
Aug.	1,551.00	496	598	446
Sep.	1,135.00	268	391	114
Oct.	1,473.00	310	453	225
Nov.	1,296.00	395	529	207
Dec.	746.00	1,086	1,086	967
1987				
Jan.	...	862	...	733

Sources: Bank Indonesia; FICORINVEST; and IMF, *International Financial Statistics*.
1/ Rates apply to transactions between FICORINVEST and banks or NBFIs. For BI's purchase of SBPUs from FICORINVEST, the applicable rates until March 6, 1986 were equal to FICOR's buying rate minus one half percentage point for maturities of up to one month or minus one percentage point for longer maturities; since March 6, 1986, rates on BI's purchase of SBPUs from FICORINVEST have been set equal to the midpoint between FICOR's buying and selling rates that apply for banks and NBFIs. For BI's sales of SBPUs to FICOR, BI's general buying rate applied until March 6, 1986, but since then FICOR's general buying rate has been applied to these transactions also.
2/ Rates apply to transactions between BI and banks or NBFIs.
3/ Volume of outstanding SBPUs sold through FICORINVEST.

aftermath of speculative capital outflows. Subsequently, with the increase in the SBI cutoff rate, and the injection of liquidity through a special credit facility, SBI sales picked up. Since June 1985 there has been a significant growth in SBIs outstanding, despite the downward adjustment in the cutoff rates in July and August. The volume of outstanding SBIs reached a peak of Rp 2,393 billion in July 1986, and since then has declined to Rp 746 billion by the end of the year.

The sharp increase in banks' SBI holdings since June 1985 reflected in part policies to enhance the liquidity of the SBI. On August 1, 1985, banks and NBFIs were allowed to sell their SBIs before maturity to FICORINVEST, an NBFI largely owned by BI, which has been the marketmaker in money market securities since February 1985. FICORINVEST stood ready to discount SBIs, at the interest rate of the original SBI issue without regard to its remaining maturity, and could automatically rediscount them with BI also at the original issue rate. Under these policies there was virtually no risk of capital loss on SBIs, in effect making them as liquid as excess reserves. This new feature of rediscountability was introduced by BI to lessen the reluctance of banks to purchase SBIs in the absence of an organized secondary market for these instruments, and to strengthen BI's ability to inject liquidity into the banking system. However, since August 6, 1986, FICORINVEST began quoting secondary market discount rates for SBIs based on the remaining maturity, and BI limited its rediscounting to SBIs with remaining maturity of 21 days or less.

(2) Discount facilities and developments in the interbank money market

i. Discount windows I and II

In order to complement the new system of reserve money management through sales and redemptions of SBIs, BI established two new rediscount facilities in February 1984. The first was designed to facilitate day-to-day reserve management by financial institutions with short-term support. Each bank's access was limited to 5 percent of its third-party liabilities, with emphasis on intermittent and temporary use of the facility. The basic discount rate was generally determined in relation to the weighted average of time deposit interest rates in rupiah for one, three, and six months. This basic rate (currently 18.5 percent) applied to borrowings in the first basic period of 15 days, rising thereafter by a fixed margin (currently one percentage point) for each additional seven days, up to a maximum of 29 days. For intermittent usage of funds, a separate, graduated scale of discount rates was used, with the basic discount rate applying to the first 30 days of intermittent usage.

The second discount facility, which replaced the previous emergency credit facility, was designed to encourage long-term lending by giving temporary relief to banks that faced maturity risks owing to a shortening of deposit maturities following deregulation. Accordingly, access to the facility was based on variations in third-party funds of each bank, in

relation to its net disbursements of medium- and long-term credits. The discount credit was for up to a maximum of four months, and each bank's access was limited to 3 percent of its third-party liabilities. The basic discount rate was applied to the first 60 days, with the rate rising by a specified margin for each additional 30 days of access.

Only those banks categorized as "sound" and "sufficiently sound" were made eligible to access these windows. Access was based on the sale of banks' own promissory notes on a discount basis. BI circulars on the discount facilities emphasized the "lender-of-last-resort" role of these facilities.

The two discount facilities remained largely unutilized except during the money market crunch of August-September 1984. Banks were generally reluctant to borrow from BI, even when the discount rate was substantially below interbank rates, lest such borrowing be interpreted by the market and BI as an indication that their solvency was compromised. Also, because the basic discount rate has been kept at a penalty level above both short-term deposit rates and interbank rates, the demand for borrowing from the discount window was relatively insensitive to variations in market rates (see Table 2).

ii. The special credit facility

The situation changed dramatically beginning in August 1984, when speculation against the rupiah resulted in a fall in local currency deposits, driving the weighted average interbank rates up to 47 percent (see Table 2). In response, BI encouraged banks to borrow under its short-term discount facility. However, the access limit for individual banks to this facility proved inadequate. In addition, the situation highlighted the dangers of having some banks too heavily dependent on a segmented interbank market, where specific banks can face particularly acute limit problems vis-à-vis lending banks. In order to stabilize money market conditions, effective October 1, 1984, the authorities imposed a limit on each bank's borrowing in the interbank market, equivalent to 7.5 percent of the bank's third-party liabilities. 1/ At the same time, they introduced a special credit facility as a substitute for interbank borrowing by banks that had exceeded their limit, thereby relaxing the limitations of the regular discount facilities. One half of the borrowing under the special credit facility was to be repaid within six months, and the balance within a year. The rate on the facility was originally set at 26 percent, but it was subsequently lowered, along with the basic discount rate, in four steps to 21 percent by November 1984. Borrowings under this facility peaked at Rp 297 billion in October 1984 and declined slowly thereafter with the first

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1/ The limit on interbank borrowing was increased to 15 percent of banks' third-party liabilities on August 7, 1985.

substantial decreases occurring in early 1985; borrowings through the two discount windows remained insignificant throughout this period. In order to prevent any inadvertent monetary contraction as repayments on the special credit facility fell due, and in order to develop a way to inject bank liquidity in a more systematic fashion, a new money market facility was established in February 1985.

iii. The money market facility

This facility created new money market instruments and allowed banks and NBFIs to trade in these instruments among themselves or with BI. The First Indonesian Finance and Investment Corporation (FICORINVEST) was appointed marketmaker, standing ready to buy and sell money market paper and funding its holdings of this paper either in the market or through a "liquidity line" from BI. 1/ The newly created money market instruments, which are known as SBPUs (Surat Berharga Pasar Uang), included promissory notes issued by customers in connection with borrowing from banks or nonbank financial institutions; promissory notes issued by banks and NBFIs in connection with interbank borrowing; trade bills drawn by one party and accepted by another in connection with a specific transaction, where either the drawer or the drawee is a customer of a bank or NBFI; and trade bills drawn by a bank or NBFI customer and accepted by the bank or NBFI in connection with a credit extension to finance a specific transaction. In order to be marketable the securities have to be drawn up according to specified regulations and be endorsed by the selling bank or NBFI. Originally, SBPU maturities were between 30 and 90 days, and the minimum denomination was Rp 50 million, but since August 7, 1985, the maximum maturity has been raised to six months and the minimum denomination has been lowered to Rp 25 million.

The holdings by FICORINVEST of the SBPUs for which a particular bank acts as the first endorser are limited to 15 percent of the third-party liabilities of that bank. However, a bank which has already reached its SBPU limit with FICORINVEST can obtain additional funds from another bank (or NBFI) which is below its SBPU ceiling by issuing a promissory note which can be endorsed by the lending bank and sold to FICORINVEST. Thus banks and NBFIs can utilize each other's limit, and the sum of the specified limits applying to holdings of each bank's SBPUs at FICORINVEST becomes, in effect, the global limit on the total volume of SBPUs that can be created in the system, equivalent to 15 percent of the liabilities

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1/ FICORINVEST established a separate Securities Trading Department to act as marketmaker. This department maintains separate accounts of its marketmaking activities, and does not buy money market paper from its parent company.

of eligible banks and NBFIs. 1/ This has encouraged interbank trading, and thereby the development of the SBPU market. 2/

FICORINVEST, which is still the only marketmaker in SBPUs, is free to set its buying and selling rates within the limits established by BI. As of end-1986, the maximum allowable rate, which is also the rate at which BI buys SBPUs directly from banks and NBFIs, was 17 percent. 3/ FICORINVEST may set rates that are lower than BI's rate by up to four percentage points for all maturities, and by up to three percentage points for maturities of more than one-month. 4/ The rates at which FICORINVEST can rediscount SBPUs at BI were originally set at one half of a percentage point and one percentage point above FICORINVEST'S buying rate for maturities of up to one month and more than one month, respectively; these intermediation margins, however, have effectively been reduced to 0.125 percentage point for all maturities since March 6, 1986. 5/

4.   Effectiveness of new monetary instruments

Although the new instruments have enhanced the authorities' technical ability to control reserve money, the apparent targeting of the SBI cut-off rate and FICOR's SBPU rate has generated a high degree of monetary variability even after the reform. Taken together, the new monetary instruments have had the net effect of absorbing reserves through most of

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1/ Interbank transactions through SBPUs, however, also count toward the separate ceiling on each bank's total interbank borrowing, which was originally set at 7.5 percent of third-party liabilities but was subsequently raised to 15 percent.

2/ Banks can also borrow from FICORINVEST in excess of their limit by selling their SBPUs under repurchase agreements that expire before the SBPU maturity date; there is no quantitative limit on such repurchase agreements. As of February 1986, the total utilization of this facility by all eligible institutions amounted to 39 percent of their aggregate SBPU line with FICORINVEST.

3/ Many smaller banks that do not have access to FICORINVEST can directly discount SBPUs with BI at the discount rate of 17 percent, irrespective of maturity. The use of this direct line of credit from BI seems to have been minimal.

4/ The evolution of rates at which bank and nonbank financial institutions can buy or sell SBPUs through FICORINVEST is presented in Table 2. The margin between buying and selling rates for SBPUs at FICORINVEST is subject to a ceiling of three percentage points.

5/ Under the new arrangement, BI will buy SBPUs from FICORINVEST at the midpoint between FICORINVEST's buying and selling rate for the remaining maturity, which amounts to a margin of 0.125 percent under FICORINVEST's current rate structure. For FICORINVEST's purchases of SBPUs from BI, FICORINVEST's buying rate for the remaining maturity will apply.

the period, with the magnitude of this effect varying substantially from month to month, by as much as the equivalent of 20 percent of reserve money. Nevertheless, owing to the targeting of interest rates, monetary policy has largely failed to offset the variations in reserve money caused by autonomous or nonpolicy factors, as is illustrated in Table 3. 1/ SBI sales offset a rather insignificant portion of the reserve money expansion caused by autonomous factors in 1983/84, the first year after the reform. In 1984/85, policy actions reinforced the expansionary impact of the autonomous factors, with net sales of SBIs more than offset by the supply of reserves through the special credit and SBPU facilities, and in 1985/86 net sales of SBIs were almost exactly equal to the net increase in total rediscounts, with a neutral net effect. Reflecting this policy stance, excess reserves have been quite variable, with quarterly changes amounting to as much as the equivalent of 7 percent of reserve money, suggesting that the authorities have not been overly concerned with controlling the system's excess liquidity. 2/ Partly as a result, neither reserve money nor broad money seems to have become less volatile following the reform. 3/ If the authorities were to refocus on targeting overall monetary or credit aggregates rather than interest rates, the present monetary control system could pose some constraints. The substitutability of SBIs and SBPUs in the portfolio of

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1/ The autonomous factors include those that are not deliberately used as tools of monetary policy and whose monetary effects are only incidental, whereas the policy factors include those whose primary purpose is to affect banking system liquidity. This distinction is bound to be somewhat artificial to the extent that one cannot establish unequivocally the intent of each type of central bank operation. In the case of Indonesia, for example, one could readily envisage the use of foreign exchange swaps or liquidity credits for monetary policy pur- poses. In practice, however, such use has occurred infrequently, if at all, making the above distinction a useful analytical device.

2/ Because reserve calculations are actually based on semi-monthly average balances, it would be sensible to recast this discussion in terms of period-average rather than end-period data. Nevertheless, owing to data limitations, the analysis throughout this paper is based on end-period stocks, under the assumption that this yields a reason- able approximation of underlying trends.

3/ The average quarterly rate of change of reserve money declined from 5 percent in the period between the second quarter of 1978 and the first quarter of 1983 to 4.3 percent in the period between the second quarter of 1983 and the second quarter of 1986, but the standard devi- ation of reserve money growth rose from 4.8 percent to 4.9 percent during the same period. Concurrently, the average quarterly rate of change of rupiah broad money declined from 5.9 to 5.6 percent, while its standard deviation declined from 3.4 to 3.2 percent. These figures suggest that the quarter-to-quarter variability in reserve money and broad money failed to decrease after the reform, despite the replacement of credit ceilings by a system of reserve money management.

Table 3. Indonesia: Factors Affecting Reserve Money

(In billions of rupiah)

	March 1982	March 1983	March 1984	March 1985	March 1986	June 1986	September 1986
	(End-of-period stock)						
Autonomous factors	4,005.0	4,072.0	5,380.0	5,698.0	7,415.0	7,390.0	8,255.0
Net foreign assets	4,094.0	4,006.0	6,244.0	7,869.0	8,159.0	7,693.0	11,762.0
Net claims on Government	-3,966.0	-3,646.0	-5,212.0	-7,916.0	-6,865.0	6,737.0	-8,510.0
Claims on private sector	1,865.0	1,621.0	1,181.0	1,022.0	1,164.0	1,270.0	1,291.0
Liquidity credits to banks	3,768.0	5,024.0	5,529.0	8,862.0	7,816.0	8,070.0	8,258.0
Net other items	-1,756.0	-2,933.0	-2,362.0	-2,139.0	-2,859.0	2,906.0	-4,546.0
Policy factors	0.0	0.0	-45.0	134.0	138.0	-300.0	-997.0
SBIs outstanding	0.0	0.0	-45.0	-243.0	-1,394.0	2,057.0	-1,135.0
SBIs rediscounted	0.0	0.0	0.0	0.0	904.0	1,316.0	24.0
SBPUs rediscounted	0.0	0.0	0.0	205.0	614.0	441.0	114.0
Rediscount Facility I	0.0	0.0	0.0	7.0	14.0	0.0	0.0
Rediscount Facility II	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Special credit facility	0.0	0.0	0.0	165.0	0.0	0.0	0.0
Reserve money	4,005.0	4,072.0	5,335.0	5,832.0	7,553.0	7,090.0	7,258.0
Currency outside banks	2,541.0	3,000.0	3,554.0	3,785.0	5,044.0	4,834.0	5,173.0
Bank reserves	1,388.0	995.0	1,711.0	1,868.0	2,447.0	2,142.0	2,024.0
Of which: Required reserves	930.9	943.5	1,251.9	1,528.2	1,846.1	1,878.8	2,058.3
Excess reserves	490.1	54.5	459.1	404.8	521.0	272.3	22.7
Correction factor 1/	-33.0	-3.0	0.0	-65.0	80.0	-9.0	-57.0
Other deposits	76.0	77.0	70.0	179.0	62.0	114.0	61.0

	Fiscal 82/83	Fiscal 83/84	Fiscal 84/85	Fiscal 85/86	Q2 1986	Q3 1986
	(Flows during period)					
Reserve money	67.0	1,263.0	497.0	1,721.0	-463.0	168.0
Currency outside banks	459.0	554.0	231.0	1,259.0	-210.0	339.0
Bank reserves	-393.0	716.0	157.0	579.0	-305.0	-118.0
Of which: Required reserves	12.6	308.4	276.3	317.8	32.7	179.5
Excess reserves	-435.6	404.6	-54.3	116.2	-248.7	-249.5
Correction factor 1/	30.0	3.0	-65.0	145.0	52.0	-53.0
Other deposits	1.0	-7.0	109.0	-117.0	52.0	-53.0
Autonomous factors	67.0	1,308.0	318.0	1,717.0	-25.0	865.0
Net foreign assets	-88.0	2,238.0	1,625.0	290.0	-466.0	4,069.0
Net claims on Government	320.0	-1,566.0	-2,704.0	1,051.0	128.0	-1,773.0
Claims on private sector	-244.0	-440.0	-159.0	142.0	106.0	21.0
Liquidity credits to banks	1,256.0	505.0	1,333.0	954.0	254.0	188.0
Net other items	-1,177.0	571.0	223.0	-720.0	-47.0	-1,640.0
Policy factors	0.0	-45.0	179.0	4.0	-438.0	-697.0
SBIs outstanding	0.0	-45.0	-198.0	-1,151.0	-663.0	922.0
SBIs rediscounted	0.0	0.0	0.0	904.0	412.0	-1,292.0
SBPUs rediscounted	0.0	0.0	205.0	409.0	-173.0	-327.0
Rediscount Facility I	0.0	0.0	7.0	7.0	-14.0	0.0
Rediscount Facility II	0.0	0.0	0.0	0.0	0.0	0.0
Special credit facility	0.0	0.0	165.0	-165.0	0.0	0.0

Source: Bank Indonesia; and Fund staff estimates.
1/ Reflects the difference between the figures on bank reserves in the accounts of BI and of deposit money banks.

investors implies that arriving at an appropriate setting for the SBI-SBPU rate structure, consistent with the corresponding operating target for reserve money, could involve considerable trial and error, possibly causing slippage in monetary control. To attain their reserve targets, the authori-ties would then need to control both the volume of SBI sales in the primary market and the volume of SBI and SBPU rediscounts by BI. How-ever, in order to limit rediscounts effectively without choking off money market activity, complementary measures to develop a secondary market for SBIs and SBPUs outside BI would be necessary. The development of such a market would allow BI greater freedom to move the rediscount rate for SBPUs and SBIs, thereby enhancing its ability to attain its reserve money targets. In this regard, one important decision that would need to be made is whether to discourage variation in borrowed reserves--by posting a penalty or market-related discount rate--or whether to allow greater fluctuation in borrowed reserves, as seems to have been the case so far. A penalty or market-related discount rate would improve control over money--albeit at the expense of greater volatility of interest rates--if shifts in the money demand function were the dominant source of financial system disturbance. By contrast, if instability in bank behavior or in nonborrowed reserves were the dominant type of disturb-ance, pegging the discount rate at a nonpenalty level would enhance monetary control, by allowing changes in borrowed reserves to neutralize the monetary effect of these disturbances. 1/ The implications of the structure of SBI and SBPU rates for both monetary control and money market development are discussed further in the following section.

IV. Monetary Policy and the Development of the Financial Sector

1. The development of the money market

Since 1985, with the introduction of new money market instruments, the role of the NBFIs in the money market has grown, a small market for acceptances has emerged, and the significance of the unsecured interbank market has been reduced. Nevertheless, the money market is still in its early phases of development with interest rates effectively set by BI.

a. The role of SBPUs

The introduction of SBPUs in early 1985 altered significantly the structure of the interbank market. Reflecting their excellent liquidity and their exemption from reserve requirements, SBPUs have become the principal vehicle for interbank loans of one-week or longer maturities, while also serving as the primary means of obtaining rediscount credits.

1/ For an analytical discussion of these issues, see Gordon H. Sellon, Jr., "The Role of the Discount Rate in Monetary Policy: A Theoretical Analysis," reprinted in Issues in Monetary Policy II, Federal Reserve Bank of Kansas City, 1982, pp. 82-94.

Partly as a result, the importance of the rupiah interbank market has diminished permanently. The weekly average volume of rupiah interbank transactions had risen steadily in 1983/84, peaking in the third quarter of 1984 at the equivalent of more than 25 percent of commercial banks' required reserves (Table 4). In the last quarter of 1984, the volume of interbank transactions fell sharply--to the equivalent of about 8 percent of commercial banks' required reserves--in response to BI's restrictions on interbank borrowing. In August 1985, however, these restrictions were relaxed, with BI raising its ceiling on each bank's interbank borrowing from 7.5 percent to 15 percent of third-party liabilities. Even so, the weekly average volume of rupiah interbank transactions failed to recover, remaining at the equivalent of less than 10 percent of required reserves throughout 1986, or well below 1983 levels.

The decreased utilization of the interbank market is due largely to the structure of SBPU rates quoted by FICORINVEST (see Table 2). The posted margin between buying and selling rates for SBPUs--which has ranged between 25 and 50 basis points--has been lower than the margin that would be needed to offset the cost of reserve requirements on interbank borrowing, thus making borrowing through SBPUs more economical. As a result, non-SBPU interbank transactions have remained concentrated in the shorter maturities--one to six days--for which there is no obvious substitute, while SBPU transactions dominate in the longer maturities. This segmentation of the market by maturity partly explains the observed wide differentials between interbank rates, on the one hand, and SBI and SBPU rates on the other (see Table 4).

b. The determination of money market rates

Under current procedures, market forces seem to play a minor role in the determination of SBI and SBPU rates. Although SBI rates are technically determined by the market in the weekly SBI auctions, in practice BI has pegged the cutoff rate at 14 percent throughout 1986, leaving the quantity of SBI sales to be demand determined. SBPU rates, likewise, have moved very little during the last year, with FICORINVEST adjusting its buying rates by a mere 25 basis points in mid-1986 and leaving them unchanged thereafter, despite the large movements in the exchange rate. Thus, BI has continuously asserted its own view of money market rates, possibly discouraging the development of trading skills among market participants. In this regard, the continuous posting of a relatively inflexible term structure of interest rates by FICORINVEST may sometimes give rise to unwarranted arbitrage opportunities or it may even discourage money market trading altogether. For example, in times of extraordinary pressure on the exchange rate, the market might dictate an inverted yield curve which would be inconsistent with the upward-sloping curve that FICORINVEST has customarily posted. This inconsistency might generate an excess supply of short-term paper and an excess demand for long-term paper, with market funding of SBPUs virtually eliminated. The same principle would apply to the term structure of SBI rates.

Table 4. Indonesia: Selected Indicators of Money Market Conditions

(In percent per annum; quarterly averages)

	Cutoff Rate on One-month SBIs	Interest Rate on One-Month SBPUs FICOR's Buying Rate	BI's Rate	Rupiah Interbank Rate 1/	Three-month Libor 2/	Adjusted three-month Libor 3/	Weekly Average of Rupiah Interbank Transactions	Commercial Banks' Required Reserves	Ratio of Weekly Average Volume of Rupiah Interbank Transactions to Commercial Banks' Required Reserves
							(Rp billion)	(Rp billion; end of period)	(In percent)
1983									
Jan.-Mar.	...	...	...	17.9	9.4	19.9	122	943	12.9
Apr.-June	...	...	...	10.5	9.4	62.3	131	993	13.2
July-Sept.	...	...	...	10.6	10.2	15.5	213	1,098	19.4
Oct.-Dec.	...	...	...	13.7	9.9	12.9	251	1,164	21.6
1984									
Jan.-Mar.	14.5	...	...	18.0	10.3	13.3	290	1,252	23.2
Apr.-June	14.5	...	...	16.0	11.5	17.0	258	1,253	20.6
July-Sept.	15.8	...	...	28.7	11.9	26.1	347	1,347	25.8
Oct.-Dec.	16.75	...	...	11.8	10.0	21.0	115	1,419	8.1
1985									
Jan.-Mar.	15.9	20.4	20.5	11.7	9.0	18.9	148	1,528	9.7
Apr.-June	16.0	18.9	19.8	10.7	8.2	17.6	120	1,623	7.4
July-Sept.	14.8	16.25	17.3	8.5	8.1	10.7	228	1,731	13.2
Oct.-Dec.	14.0	14.50	17.0	10.5	8.2	9.8	175	1,864	9.4
1986									
Jan.-Mar.	14.0	14.75	17.0	13.3	7.9	9.1	175	1,846	9.5
Apr.-June	14.0	14.75	17.0	13.6	7.1	7.0	153	1,879	8.1
July-Sept.	14.0	14.75	17.0	12.5	6.3	16.3	153	2,058	7.4
Oct.-Dec.	14.0	14.75	17.0	13.4	6.1	...	187	2,039	9.2

Source: Bank Indonesia; and Fund staff estimates.
1/ Average of rates at which transactions were conducted, weighted by the volume of each transcation.
2/ LIBOR is London interbank offered rate on 3-month U.S. dollar deposits.
3/ Adjusted for the annualized actual rate of depreciation vis-a-vis the U.S. dollar during the current quarter.
4/ Adjusted for the actual rate of depreciation vis-a-vis the U.S. dollar during the last 12 months.

To rationalize the structure of money market rates, it is necessary to increase the role of market forces in the determination of interest rates, so that the liquidity of money market instruments is provided primarily by the market rather than by BI's discount window. This transition is perhaps one of the most challenging tasks in any financial system reform. In the early stages, the central bank may still need to assert its own views on interest rates, based on the signals provided by the market in the form of quantities of money market paper demanded and supplied. Eventually, the monetary authority could limit its intervention to the shortest maturities, allowing the market to determine the yield curve, with the intervention tailored to the objectives of monetary policy. Such a system would allow the authorities the discretion to intervene as necessary in order to reduce interest rate volatility, while also forging closer linkages between money market rates, deposit rates, and loan rates. 1/ In particular, to the extent that SBPUs are viewed as a deposit substitute, their yields should be in line with those on deposits of like maturities adjusted for the cost of reserve requirements. 2/ In the longer run, if participation in the SBPU market were to widen to include nonbank institutional investors, prime borrowers could sell their own promissory notes to investors either directly or through NBFIs, thus stimulating the development of a commercial paper market. Competition from this market could then be expected to keep SBPU rates at levels close to, but slightly below, the prime and commercial paper rates. 3/

c. Money market development and monetary control

Under a system of targeting monetary aggregates, both the further development of the money market and the effectiveness of monetary control

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1/ For discussion of the difficulties encountered in liberalizing short-term rates in the United Kingdom, see A.L. Coleby, "Changes in Money Market Instruments and Procedures in the United Kingdom" in Bank for International Settlements, Changes in Money Market Instruments and Procedures: Objectives and Implications (Basel, Switzerland: BIS, 1986), pp. 199-206.

2/ With effective reserve ratios on time deposits amounting to 10 percent for state and foreign banks, and 5 percent for other banks, the SBPU rate should exceed the deposit rate by at least three quarters to one and a half percentage points at current interest rates. This differential should be even wider if banks preferred to be funded through SBPUs to match the maturities of their assets and liabilities or to lower their administrative costs.

3/ These considerations also suggest that a wider and more active money market could help increase the responsiveness of loan rates to monetary policy. For a description of the relevant relationships in the U.S. bankers' acceptance market, see Frederick Jensen and Patrick Parkinson, "Recent Developments in the Bankers' Acceptance Market," Federal Reserve Bulletin, January 1986, pp. 1-12.

would be critically influenced by the relative structure of SBI and SBPU rates. For example, the rate structure during 1985/86, together with SBI rediscountability, made SBIs more attractive than short-term SBPUs as an outlet for banks' excess liquidity. At the same time, funding of loans through SBPUs has remained more attractive than funding through deposits, because the SBPU rates have been generally lower than deposit rates adjusted for the cost of reserve requirements. Such a rate structure could weaken control over reserve aggregates by raising the demand for rediscount credit through SBPUs, while also hampering the development of the money market by discouraging market funding of SBPUs. BI, in effect, may thus perform the interbank transfer of funds by supplying liquidity through SBPU and SBI rediscounts on the one hand, and absorbing a part of excess liquidity through SBI sales on the other. Such possibilities highlight the need to increase flexibility in SBI and SBPU rates in order to strengthen control over the volume of SBIs and SBPUs rediscounted with BI. The recent change in the rediscount policy for SBIs was an important step in this direction. Additional measures to strengthen money markets could include licensing new marketmakers to compete with FICORINVEST and pursuing a more flexible SBPU rate policy designed to maximize market funding. As of January 1987, market funding of SBPUs had not shown much improvement, given the automatic rediscounting at one half the spread posted by FICORINVEST (see Table 2).

2.   The pattern of financial intermediation

The reform measures proved highly effective in stimulating competition among banks and in spurring a rapid expansion in deposits with financial institutions. Reflecting the increased competition for deposits, time deposit rates offered by state banks were initially raised to levels that were close to, but somewhat below, the rates offered by private banks, and subsequently, the differential between the two rates has declined substantially (Table 5). Partly as a result, the historical decline in the state banks' share of deposits was arrested, the share of private national banks doubled from 14 percent in June 1983 to 30 percent by end-1985, and that of foreign banks was cut in half. The overall impact of deregulation thus seems to have strengthened the competitive position of both state and private national banks vis-à-vis foreign banks. Perhaps the most conspicuous success of the reform was the rapid pick-up in the growth of total domestic currency deposits after June 1983. Rupiah time and savings deposits rose by the equivalent of about eight percentage points of GDP between March 1983 and December 1986, while foreign currency deposits with DMBs grew by only one and a half percentage points of GDP during the same period (see Table 1). This pattern was a marked reversal of the pre-reform trend of faster growth in foreign currency deposits and was partly due to the exchange rate adjustment in 1983. While data are not available on the effect of reform measures on deposits offshore, one can hypothesize that the total portfolio shifts from foreign to domestic currency deposits were even more pronounced, contributing substantially to the strengthening of Indonesia's external accounts.

Table 5. Indonesia: Developments in Interest Rates and Related Indicators

(In percent per annum, unless otherwise specified)

	Three-Month Deposit Rate			Six-Month Depotit Rate			Average Loan Rate on Nonpriority Credit			3-Mon. LIBOR	Inflation 1/	Rate of Depreciation 2/	Real Effective Exchange Rate 3/
	SB	PNB	FB	SB	PNB	FB	SB	PNB	FB				
1982													
Mar.	9.1	16.8	17.1	6.0	18.1	12.4	...	...	...	15.7	10.2	7.2	114.5
June	8.4	17.4	17.9	6.0	18.3	15.9	...	...	...	15.2	9.0	3.9	116.2
Sept.	8.6	17.7	18.2	6.0	18.5	18.7	...	...	...	12.7	9.0	5.7	119.8
Dec.	8.6	17.1	17.8	6.0	18.5	18.3	...	...	...	9.6	10.1	11.5	119.6
1983													
Mar.	9.5	17.4	19.0	6.0	18.6	18.5	17.7 4/	27.3 4/5/	22.2 4/	9.4	8.6	9.6	115.9
June	13.1	17.4	15.8	11.9	18.8	17.6	...	...	...	9.4	13.5	48.4	86.6
Sept.	14.9	17.3	15.1	11.6	18.3	16.9	...	...	...	10.2	13.5	4.8	89.6
Dec.	14.8	17.4	16.0	13.1	18.8	17.0	...	...	...	9.9	12.0	2.7	89.2
1984													
Mar.	15.9	18.2	18.6	14.6	18.7	18.5	18.2	24.9 5/	21.3	10.3	13.3	2.7	90.9
June	15.6	18.1	17.9	16.9	19.2	18.9	...	...	...	11.5	10.4	4.9	91.3
Sept.	16.7	19.3	21.4	16.9	19.6	19.5	...	...	...	11.9	8.8	12.7	93.5
Dec.	17.1	20.7	21.7	17.2	20.7	21.4	...	...	...	10.0	9.1	10.0	93.9
1985													
Mar.	17.3	20.9	21.8	18.0	21.2	21.6	19.9	28.2 5/	26.4	9.0	3.7	9.1	95.0
June	17.1	20.8	20.0	18.6	21.1	20.7	...	...	...	8.6	5.2	8.7	92.3
Sept.	16.4	18.2	16.7	17.7	20.0	18.5	...	...	...	8.1	4.8	2.4	88.9
Dec.	14.6	15.9	14.9	16.0	17.8	16.5	...	...	..	8.2	4.4	1.5	83.1
1986													
Mar.	14.2	15.5	14.9	14.5	16.7	15.4	19.0	25.5 5/	22.2	7.9	5.8	1.5	78.7
June	14.2	15.7	15.1	14.8	16.5	15.1	18.8	25.2 5/	22.1	7.1	3.6	-0.1	75.6
Sept.	14.3	15.1	14.1	14.7	15.9	15.0	18.7	24.8 5/	21.4	6.3	6.8	9.4	68.6

Source: Information supplied by Indonesian authorities.

1/ Actual rate of increase in consumer price index over preceding 12 months.
2/ Annualized rate of depreciation of the Rp/US$ quarterly average exchange rate; except for Q2 1983, for which actual depreciation over preceding 12 months has been used.
3/ Quarterly average.
4/ Based on data for May 1983.
5/ Simple average of rates of foreign-exchange and nonforeign-exchange private national banks.

The increased interbank trading in SBPUs has also permitted some easing of the regulation-induced segmentation in the loan market. Although state banks are prohibited from extending credits--or acting as first endorser of such credits--to joint ventures, they are permitted to buy SBPUs issued by joint ventures which are already endorsed by private banks or NBFIs. Similarly, even though there is a prohibition against foreign banks extending credit to enterprises outside Jakarta, these banks can buy securities issued by such enterprises if they are already endorsed by national banks or NBFIs.

V. Stance of Monetary Policy and Macroeconomic Performance

Following the 1983 reform, the new monetary control system, together with the appropriate fiscal and exchange rate adjustments, contributed to a substantial improvement in Indonesia's external accounts, consistent with the authorities' principal objective. Inflation was also brought under control--after an upsurge that followed the 1983 depreciation of the rupiah--and real output, which had stagnated in 1982, was brought back on a growth path. Nevertheless, partly owing to the steady weakening of oil prices, the exchange rate remained under pressure through much of the post-reform period. The resulting high level of domestic interest rates is perhaps one of the key policy issues still confronting the Indonesian authorities.

1. External accounts

The financial reform of 1983 was part of a concerted effort to improve Indonesia's external accounts, which had registered an overall deficit of US$3.5 billion in 1982/83. In addition to the already discussed measures in the financial sector, this effort included large adjustments in both the exchange rate and fiscal policy. The maxi-devaluation of 1983 and the subsequent mini-adjustments in the exchange rate served to strengthen competitiveness; Indonesia's real effective exchange rate declined by 21.6 percent in 1983/84 and, after appreciating slightly by 4.5 percent in 1984/85 on account of the strength of the U.S. dollar, it declined again by 17.2 percent in 1985/86 (Table 6). In the fiscal accounts, the adjustment was also substantial in both expenditures and revenues. The overall budget deficit narrowed from the equivalent of 4.8 percent of GDP in 1982/83 to 2.6 percent of GDP in 1983/84 and, after swinging into surplus in 1984/85, it widened to 2.9 percent of GDP in 1985/86, largely on account of higher development expenditures (see Table 6).

Reflecting these measures, the overall deficit in the balance of payments moved into surplus--averaging US$2.5 billion a year--in 1983/84 and 1984/85 before registering a small deficit in 1985/86. Private capital inflows played an important role in this improvement. In the three years following the implementation of the reform, these inflows are

Table 6.   Indonesia: Selected Financial Statistics

	1981/82	1982/83	1983/84	1984/85	1985/86
Balance of payments	(In billions of U.S. dollars)				
Current account	-2.8	-6.8	-4.4	-1.7	-2.0
Capital account	2.9	3.3	6.9	4.0	1.3
Of which:					
Private short-term capital 1/	-0.6	-1.9	2.5	0.8	-0.7
Overall balance	0.1	-3.5	2.6	2.3	-0.5
Government finance	(In percent of GDP)				
Revenue and grants	21.3	19.1	20.9	20.9	20.1
Expenditure	23.7	23.9	23.5	20.0	23.0
Overall surplus or deficit	-2.3	-4.8	-2.6	0.9	-2.9
Borrowing from the banking system	-0.2	1.4	-2.4	-3.5	0.9
Foreign borrowing (net)	2.5	3.5	5.0	2.6	2.0
Memorandum items	(Percentage change unless otherwise specified)				
Terms of trade	8.6	0.3	-5.3	3.1	-11.4
Real effective exchange rate	3.6	1.2	-21.6	4.5	-17.2
Average crude oil price ($/barrel)	34.9	33.5	29.5	28.8	25.1
Real GDP 2/	6.8	-0.3	3.4	6.1	1.9
Of which: Non-oil GDP	(8.7)	(4.2)	(4.0)	(4.7)	(3.5)

Sources: Data provided by the Indonesian authorities; and Fund staff estimates.

1/   Estimate based on net errors and omissions.
2/   Calendar year.

estimated to have amounted to a cumulative US$2.5 billion, thereby reversing the outflows that had occurred in the previous two years. This reversal in the pattern of private capital flows and the concurrent sharp expansion in rupiah time deposits (see Table 1) suggest that the financial reform measures must have contributed significantly to the adjustment effort.

2.   The level of interest rates, exchange rate
       expectations, and the policy mix

Despite the substantial adjustments in the real effective exchange rate, domestic interest rates have remained quite high in real terms over the last few years, posing a significant policy challenge. Assuming that inflation expectations can be approximated by actual inflation over the past 12 months, one notes that both real deposit and real loan rates peaked in 1985 at very high levels--ranging *from a low of 14 percent for real deposit rates up to 26 percent for real loan rates* (see Table 5). Thereafter, nominal interest rates declined by as much as five to six percentage points but, with the rate of inflation remaining subdued, real interest rates, particularly loan rates, continued being exceptionally high, in part reflecting the large spreads between deposit and loan rates. The apparent downward rigidity in real interest rates may also be due to the market's expectation of devaluation, which could raise inflationary expectations even in times of price stability. Because exchange rate expectations do not always respond to exchange rate policy in a predictable manner, containing real interest rates is still one of the most challenging tasks confronting the Indonesian policymakers.

Throughout the 1983-86 period, rupiah deposit rates moved roughly in line with U.S. dollar rates adjusted for the actual rate of depreciation of the rupiah against the U.S. dollar. However, the downward movement of rupiah deposit rates was rather sluggish, reflecting in part the lag in the adjustment of exchange rate expectations. A similar pattern is evident with regard to movements in SBI and SBPU rates, suggesting that the setting of interest rate targets must have also been constrained by interest rate parity considerations (see Table 4).

In an attempt to stabilize both exchange rate expectations and domestic loan rates, BI has been providing forward exchange cover for approved private sector foreign debt obligations through a swap facility at below market rates. In October 1986, access to this facility was liberalized as the previous ceiling on swaps was abolished, and the premium for new swaps of one-, three-, and six-month maturities was raised from 6 percent to 8 percent. The easier access to the swap facility was to be coupled with a more flexible structure of swap premiums that would ultimately align these premiums with interest rate differentials. As of March 1987, however, the BI swap premium remained unchanged at 8-1/8 percent, compared with money market swap premiums of 11-13 percent. The persistence of such wide differentials despite the large devaluation of September 1986, underscores the complexity of coor-

dinating exchange rate and monetary policies in the presence of stubborn exchange rate expectations.

More generally, the question of how to determine the optimal mix of exchange rate and financial policies in open economies is still largely unanswered. The combination of high real interest rates and overvalued exchange rates, in particular, has proven to be destabilizing in several Latin American countries. 1/ Further study on the experiences of other countries might cast additional light on the relative advantages and disadvantages of a wider variety of policy mixes.

VI. Some Lessons from Indonesia's Experience

1. Direct controls versus reserve money management

The Indonesian experience before the reform underscores the serious shortcomings of monetary policy based on direct controls on the banking system. In the absence of additional checks on the growth of reserve money, binding credit ceilings may force banks to accumulate large amounts of excess liquidity, thereby undermining their incentives to attract deposits. The resulting lack of competition in banking is bound to discourage domestic financial intermediation and is likely to give rise to capital outflows, posing a threat to macroeconomic stability. This was generally the case in Indonesia before the financial reform, with both banks and nonbanks depositing increasing amounts of funds offshore.

These problems can be alleviated by switching to a system of indirect control through reserve money management. In addition to facilitating the attainment of macroeconomic objectives, indirect monetary control would also be conducive to a more integrated, more competitive and more efficient financial system, as is indicated by Indonesia's recent experience. By controlling reserve money through open market operations, the authorities could liberalize interest rates and encourage competition, while still maintaining a tight rein over the system's overall money-creating and lending potential.

2. The rationale for developing domestic currency open market instruments

While open market operations can be conducted in foreign or domestic currency assets equally effectively, the Indonesian experience may be

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1/ For a description of the recent experiences of Argentina, Chile, and Uruguay, see Vittorio Corbo et al (1986). Sachs (1985) compares the experiences of Latin American and East Asian countries, and argues that trade and exchange rate policies were the most significant cause of the disparity between the performance of these two groups of countries.

quite instructive in underscoring the advantages of developing domestic currency instruments.

From the point of view of monetary control, the availability of a domestic currency instrument allows policymakers one extra degree of freedom, at least in the short run. Open market operations exclusively in foreign exchange allow the targeting of either the exchange rate or the money supply but not both. By contrast, the existence of a domestic-currency instrument could allow the achievement of independent exchange rate and money supply targets through sterilized intervention, at least in the short run. Such intervention may be especially effective in smoothing out the monetary effects of seasonal fluctuations in the central bank's foreign exchange purchases, but it could also help the central bank resist speculative attacks on the currency without giving up monetary autonomy. In the case of Indonesia, one could even argue, with the benefit of hindsight, that the possibility of sterilized intervention could have conceivably sheltered the domestic economy more effectively against the effects of the oil price cycle of the last several years.

Other reasons that favor the introduction of a domestic-currency open market instrument relate to the objectives of financial market development and prudential control. In Indonesia, one can already note the tendencies toward greater integration, wider participation, and more competition in the domestic money market as a result of the introduction of the new monetary instruments. In addition, given the uncertainty with regard to future exchange rate developments, prudential considerations might limit the extent to which excess bank liquidity could be absorbed with sales of foreign assets and might warrant the introduction of appropriately priced liquid assets in domestic currency.

3.   Financial reform, external balance, and monetary targeting

So far, the stability of monetary and reserve aggregates in Indonesia does not seem to have been significantly affected by the reform measures, but control over these aggregates could be enhanced in the future. The aggregates have exhibited more or less the same variability before and after the reform reflecting the authorities' emphasis on interest rate targets since 1983. This emphasis was probably warranted in the wake of the large portfolio shifts following the reform. The decision to target interest rates may have also been due to the pressure on the exchange rate, and hence on the domestic money market, that resulted in part from the extraordinary oil price shock of the last few years. The consequent need to moderate interest rate volatility during this period may have made it impractical to target monetary aggregates. Excessive volatility in interest rates could undermine the soundness and stability of the domestic financial system, and could discourage the further development of the money market. Nevertheless, the recent easing of the pressures on the balance of payments could permit placing more emphasis on monetary and credit aggregates as policy targets. This would allow fuller use of the new monetary instruments and could also encourage

money market development. Effective monetary targeting would, however, require greater flexibility in SBI and SBPU rates and better coordination between open market and rediscounting operations than has been necessary under interest rate targeting.

VII. Concluding Remarks

The financial reform initiated by the Indonesian authorities has been highly successful. In addition to having helped achieve external balance objectives, the reform measures have promoted the growth and integration of the money market, encouraged competition and efficiency in banking, and enhanced BI's technical ability to control reserve and monetary aggregates. This latter ability might become especially useful in the near future, as the partial reversal of the recent oil price decline helps strengthen Indonesia's balance of payments.

In the period ahead, one of the most challenging tasks will be the gradual move toward a more market-oriented system of determining SBI and SBPU rates. 1/ The Indonesian experience indicates that the pace of liberalization of money market rates would depend not only on continued institutional development, but also on the choice of policy mix in dealing with domestic and external shocks. In this regard, the interactions between the mix of exchange rate and financial policies, on the one hand, and exchange rate expectations and interest rates on the other play a critical role and require further study.

1/ Recent developments (not covered in this paper) suggest that the authorities have already moved toward greater flexibility in interest rates, placing more emphasis on quantity targets. This augurs well for the further development of the money market and for a more effective use of open market operations.

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